

must have been present, which were so mild that they were not recognized at all by the physician.

The author has demonstrated a further important fact that a repeated attack in the same individual, designated as relapse, complication or recurrence, of the dominant type, is nothing more than a new second or third or fourth generation of the micro-organism in the old host. Here also it may happen that the long interval between the outbreaks points simply to the multifariousness of the dominant type, and means that the disease during the intervals has been so mild as not to be recognized.

Consequently, Reger claims that the related diseases present only a local expression of the general infection with its large number of mixed bacteria. This is influenced by the disposition of the individual and by the opportunity offered by the point of diminished resistance, or by the tendencies of the various germs, to appear sometimes in one place, sometimes in another.—*Verhandlungen der deutschen Gesellschaft für Chirurgie*, XXIII Kongress, 1894.

V. The Question of the Spontaneous Healing of Cancer in Man. By Dr. EMIL SENGER (Krefeld). Senger has given especial attention to the carcinomata which are caused by chronic inflammatory irritation, as the carcinoma scroti of the chimney-sweep, "tar cancer," etc. For the past four years he has studied the tumors of the buccal cavity, which develop on the cheek or tongue opposite an irritating tooth. These tumors can be observed at a very early period in their development, and can be carefully followed during their extension. Senger found after the extirpation of these tumors that they presented the microscopic structure which every pathologist would regard as carcinomatous.

In order to decide the question as to whether these tumors are really carcinoma or not, and what the result would be after removal of the cause, Senger has experimented in two cases. He divided the tumor into two halves, extirpated one-half for microscopic examination and left the other for further observation. At the same time he

removed the offending stump of tooth. The result was that the tumor which, on account of its indurated border, its rapid growth during the last three weeks, its painfulness, etc., presented the clinical picture of carcinoma, spontaneously disappeared. The excised portion showed the typical structure of carcinoma. The value of this observation revolves about the question, Can we always depend upon the microscopic picture for the diagnosis of carcinoma? This question will receive different answers depending on whether we view it from a clinical or histological stand-point.

Since the time of Waldeyer we have been accustomed to define carcinoma as an atypical epithelial development. It would be at least a great error to designate every atypical epithelial development as carcinoma. The definition of Carl Friedländer must be accepted as the best. He assumes that an atypical epithelial development can be called carcinoma only when the epithelial development involves not only the newly-formed tumor-tissue, but also extends over into the pre-existing tissue.

In both cases studied by Senger, the demands of Friedländer's definition were fulfilled. The epithelial growth had extended into the muscle, and infiltrated the entire mucous membrane. It certainly does not seem right, however, to diagnose as carcinoma a tumor which has subsided after the removal of the irritating cause.

Senger does not claim that cancer can heal spontaneously; he simply asks the question as to whether the diagnosis of carcinoma shall be made upon histological or clinical grounds. In the latter case the spontaneous healing of carcinoma is out of the question; in the first case it is possible. At the present time we are inclined to view the subject from the clinical stand-point.—*Verhandlungen der deutschen Gesellschaft für Chirurgie*, XXIII Kongress, 1894.

VI. The Employment of Blood-Serum in Surgery.

By Dr. SCHLEICH (Berlin). Schleich has reported his experiences in the use of blood-serum in treatment of wounds and skin-diseases. Fresh bovine blood-serum was used, mixed with 25 per cent. of zinc